

REMARKS

By this reply, claim 1 has been amended and new claims 9-15 have been added. Reconsideration and allowance are respectfully requested in view of the following remarks.

Rejection Under 35 U.S.C. § 103

Claims 1-6 and 8 stand rejected under 35 U.S.C. § 103(a) over GB 1420635 ("GB '635") or U.S. Patent No. 6,168,141 to Zimmer for the reasons stated on pages 2-3 of the Office Action. The rejection is respectfully traversed.

Claim 1, as amended, recites an apparatus in an infuser for a liquid food product. The apparatus includes "a pressure vessel with an inlet for the product located in its upper region and an outlet for the product located in its lower region, said product inlet being disposed to divide the product entering into the pressure vessel into small droplets, and the infuser also including an inlet for steam disposed such that steam enters into the upper region of the pressure vessel through a concentric distribution chamber wherein the concentric distribution chamber is defined by a wall of the pressure vessel, a guide plate and at least one foraminated plate, wherein the concentric distribution chamber is designed so that the steam, on entering the pressure vessel, is downwardly directed and is at a speed of < 2 m/sec, and the pressure vessel is designed so that the product is treated by the steam below the guide plate" (emphasis added).

The Office Action acknowledges that GB '635 and Zimmer both fail to disclose the recited steam velocity, but asserts that it would have been obvious to "have

provided the optimum speed and dimensions set forth in the claims." Applicants respectfully disagree.

As described at page 6, lines 19-23, of the present specification, the concentric distribution chamber is designed to introduce steam into the pressure vessel at the recited speed and in a downward direction to thereby minimize the risk that steam disturbs the fall of the product droplets through the pressure vessel. In contrast, neither GB '635 nor Zimmer discloses or suggests that steam speed and direction are result effective variables for minimizing the risk of steam disturbing the fall of product droplets through a pressure vessel. Accordingly, GB '635 and Zimmer do not support the position that it would have been obvious to have modified the apparatus disclosed in either of GB '635 and Zimmer to have optimized the steam speed, or the direction of introduction of the steam into a pressure vessel, to thereby minimize the risk of steam disturbing the fall of product droplets through a pressure vessel. See In re Antonie, 195 U.S.P.Q. 6, 8 (CCPA 1977).

Furthermore, claim 1 recites that "the product is treated by the steam in the pressure vessel below the guide plate." In the exemplary embodiment of the pressure vessel shown in Figure 1, the guide plate 11 partially defines the concentric distribution chamber through which steam is introduced into the upper region of the pressure vessel. In the pressure vessel, small droplets of the product fall downward until they reach the liquid surface 7. The steam heats the droplets so that they reach the liquid surface 7 at a desired temperature. The steam treats the product below the guide plate 11. See, for example, the description at page 6, lines 1-23, of the specification.

Zimmer discloses an apparatus for treating fluent materials. As shown in Figure 1, the apparatus includes a vessel 10 having a side wall 16 and a partition wall 30 defining a region into which steam is introduced by inlets 24a, 24b. In the vessel 10, the fluent material is treated by the steam in the volume inside the partition wall 30 (column 5, line 63, to column 6, line 15). The Office Action does not specifically identify the location of the alleged "concentric distribution chamber" in Zimmer's vessel 10. To the extent that Zimmer's partition wall 30 may have been considered to be a "guide wall" in this ground of rejection, the fluent material is treated in Zimmer's vessel within the volume of the vessel partially defined by the partition wall 30, not below the partition wall 30. That is, the treatment region is not below the partition wall 11 in Zimmer's vessel. Accordingly, Zimmer does not disclose or suggest the apparatus recited in claim 1 for this additional reason.

Applicants note that GB '635 also fails to suggest additional features recited in claim 1. For example, GB '635 discloses that milk is discharged in a thin film and that the milk sterilizing apparatus includes a screen panel to "further facilitate maintaining the milk discharge in a thin film" (page 2, lines 56-68). The Office Action has not identified any disclosure in GB '635 regarding the features of "a pressure vessel with an inlet for the product located in its upper region and an outlet for the product located in its lower region, said product inlet being disposed to divide the product entering into the pressure vessel into small droplets" (emphasis added).

The Office Action also fails to identify the location of the alleged "concentric distribution chamber" defined by a wall of a pressure vessel, a guide plate and at least one foraminated plate, in GB '635. As such, the Office Action also has not

identified disclosure in GB '635 that "the pressure vessel is designed so that the product is treated by the steam below the guide plate," as claimed.

Accordingly, Applicants submit that GB '635 also does not suggest the apparatus recited in claim 1 for at least the above-discussed reasons.

Therefore, withdrawal of the rejection is respectfully requested.

New Claims

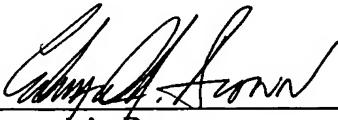
New claims 9-15 are also patentable.

Conclusion

For the foregoing reasons, allowance of the application is respectfully requested. If there are any questions concerning this response, the Examiner is respectfully requested to contact the undersigned at the number given below.

Respectfully submitted,

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